Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

1-51. (Cancelled)

52. (New) A connector for electrically connecting to pads formed on a semiconductor device, comprising:

a substrate;

a plurality of electrically conductive contact elements formed on the substrate, said contact elements projecting away from the substrate; and

an electrical circuit formed on or within the substrate, the electrical circuit being electrically connected to at least one of the plurality of contact elements.

53. (New) The contact elements of claim 52 separated by a pitch of less than about 250 microns.

54. (New) The contact elements of claim 52 having curvature.

55. (New) The contact elements of claim 54 having a wiping surface that is up to approximately 50% of a second surface to which it is wiped.

56. (New) The contact elements of claim 52 in vertical alignment with respective pads of the semiconductor device.

57. (New) The contact elements of claim 52 coated with a conductive material.

58. (New) The contact elements of claim 52 made from a material selected from the group of copper, copper alloy, small-grained copper-beryllium (CuBe) alloy, and a stainless steel/Cu/Ni/Au multilayer.

59. (New) The connector of claim 52 disposed to connect to solder balls formed on the semiconductor device which solder balls are formed having a pitch of less than or about 250 microns.

60. (New) The contact elements of claim 59 having a plane of contact tangent to a side surface of the solder balls.

61. (New) The contact elements of claim 52 having two or more curved portions.

62. (New) The contact elements of claim 52 being of at least two types, a first type having a mechanical property different from a mechanical property of a second type.

63. (New) The contact elements of claim 52 being of at least two types, a first type projecting away a first distance above a top surface of the substrate and a second type projecting a second distance above the top surface of the substrate, the second distance being greater than the first distance.

64. (New) The contact elements of claim 52 being of at least two types, a first type being made of a first metal composition and a second type being made of second metal composition different from the first metal composition.

65. (New) The contact elements of claim 52 being of at least two types, a first type being separated by a first pitch and a second type being separated by a second pitch larger than the first pitch.

66. (New) The connector of claim 52, further comprising one or more conductive ground planes formed on or embedded in the substrate.

67. (New) The conductive ground planes of claim 66 formed by one or more metal layers embedded within the substrate.

68. (New) The contact elements and portions of the electrical circuit of claim 52 formed using a metal layer of the same type.

69. (New) The connector of claim 52 further comprising a thermally conductive plane formed within the substrate.

70. (New) The thermally conductive plane of claim 69 isolated from each of the contact elements.

71. (New) The thermally conductive plane of claim 69 being formed of a copper plane and spaced apart from each of the contact elements for electrical isolation.

72. (New) The thermally conductive plane of claim 69 formed of a filled epoxy that is formed in intimate contact with at least one of the contact elements.

73. (New) The electrical circuit of claim 52 comprising at least one of a capacitor and an inductor.

74. (New) A connector for electrically connecting to solder balls of a ball grid array device, comprising:

a substrate;

a plurality of electrically conductive contact elements formed on the substrate, said contact elements projecting away from the substrate; and

an electrical circuit formed on or within the substrate, the electrical circuit being electrically connected to at least one of the plurality of contact elements.

75. (New) A plane of contact of the contact elements of claim 74 being a plane tangent to a side surface of the solder balls being contacted.

76. (New) A base portion and an extending portion of the contact elements of claim 74 are a contiguous structure made from the same conductive material.

77. (New) A base portion and an extending portion of the contact elements of claim 74 are formed using a first conductive metal and a second conductive metal, respectively, the first and second conductive metals being different from each other.

78. (New) The contact elements of claim 74 are made from a material selected from the group of copper, copper alloy, small-grained copper-beryllium (CuBe) alloy, and a stainless steel/Cu/Ni/Au multilayer.

79. (New) The electrical circuit of claim 74 formed by one or more metal layers embedded within the substrate.

80. (New) The contact elements and at least portions of the electrical circuit of claim 74 being formed of a metal of the same type.

81. (New) The electrical circuit of claim 74 comprising at least one of a capacitor and an inductor.